

## **REMARKS**

In view of the above amendments and the following remarks, reconsideration and further examination are respectfully requested.

### **I. Amendments to the Claims**

Claims 1, 9 and 17-21 have been amended to clarify features of the invention recited therein and to further distinguish the present invention from the references relied upon in the rejections discussed below.

### **II. 35 U.S.C. § 103(a) Rejections**

Claims 1, 6, 8-9, 13, and 15-21 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Puri (Signal Processing Image Communication 2), MPEG inherency supported by Tahara (US 2002/0080875). Furthermore, claims 4-5, 7, 12, and 14 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Puri (MPEG inherency supported by Tahara) and Hosono (US 5,796,438).

Initially, the Applicants note that in item 5 on page 2 the Office Action states that the *“Examiner understands that applicant tries to interpret the claim in the light of the specification. However the claim limitation ‘profile information specifying a combination of information’ can be plainly interpreted as a profile information specifying a combination of any information because there is no specifics about information in the ‘combination of information’. So, Examiner interprets ‘profile information specifying a combination’ as a flag indicating whether there is a residual information or not.”* The Applicants would like to thank the Examiner for the above-mentioned helpful comments.

In the light of the Examiner's position discussed above, the Applicants have amended the independent claims to clarify that the profile information specifies a combination of specific information **included in the additional information**. As a result, the above-mentioned rejections are believed clearly inapplicable to amended independent claims 1, 9 and 17-21. The specific differences between the features required by independent claims 1, 9 and 17-21 and the referenced prior art are discussed in detail below.

Amended independent claim 1 recites a decoding device including a decoding unit, a motion vector detection unit operable to detect a second motion vector, which is a motion vector between image frames of an encoded image signal decoded, based on (i) decoded additional information output from the decoding unit and (ii) decoded image frames output from the decoding unit, and includes an interpolation frame creation unit operable to create an interpolation frame, considering the detected second motion vector as the first motion vector. Further, claim 1 recites that the interpolation frame creation unit obtains an interpolation motion vector from the second motion vector based on a ratio between (i) a distance in a time axis direction between the decoded image frames and (ii) a distance in a time axis direction from a position of one of the decoded image frames to an interpolation position of the interpolation frame for interpolating the image frames. Further, claim 1 recites that, when the additional information includes (i) an interpolation method for the interpolation frame with respect to the image frames, (ii) a motion detection method for detecting the first motion vector, and (iii) profile information specifying a combination of information that is related to the interpolation method and the motion detection method and that is included in the additional information, the interpolation frame creation unit specifies information included in the additional information using the profile information and creates the interpolation frame based on the specified

information included in the additional information, and wherein, when the additional information further includes at least one of (i) residual information of the interpolation frame and an image frame corresponding to the interpolation frame, and (ii) a vector difference between a motion vector of the interpolation frame detected with respect to the image frames and a motion vector of the interpolation frame derived based on the first motion vector with respect to the image frames, and when the additional information further includes the profile information specifying a combination of information that is related to (1) the interpolation method, (2) the motion detection method, (3) the residual information, and (4) the vector difference, and that is included in the additional information, the interpolation frame creation unit specifies the information included in the additional information using the profile information and creates the interpolation frame based on the specified information included in the additional information.

Puri and Hosono, or any combination thereof, fails to disclose or suggest the above-mentioned distinguishing features, required by amended independent claim 1.

Rather, Puri merely teaches the use of residual information (see page 131, right col., lines 1-3; and Figs. 2 and 3).

Thus, in view of the above, it is clear that Puri is merely related to the use of residual information, but fails to disclose or suggest the use of additional information including profile information for specifying a combination of information that is related to the interpolation method and the motion detection method and that is included in the additional information and/or for specifying a combination of information that is related to (1) the interpolation method, (2) the motion detection method, (3) the residual information, and (4) the vector difference, and that is included in the additional information, as required by claim 1.

Specifically, the Applicants submit that, even though Puri could be interpreted to teach determining whether or not residual information is included, Puri still fails to disclose or suggest that:

(A) when the additional information includes (i) an interpolation method for the interpolation frame with respect to the image frames, (ii) a motion detection method for detecting the first motion vector, and (iii) profile information specifying a combination of information that is related to the interpolation method and the motion detection method and that is included in the additional information, the interpolation frame creation unit specifies information included in the additional information using the profile information and creates the interpolation frame based on the specified information included in the additional information; and

(B) when the additional information further includes at least one of (i) residual information of the interpolation frame and an image frame corresponding to the interpolation frame, and (ii) a vector difference between a motion vector of the interpolation frame detected with respect to the image frames and a motion vector of the interpolation frame derived based on the first motion vector with respect to the image frames, and when the additional information further includes the profile information specifying a combination of information that is related to (1) the interpolation method, (2) the motion detection method, (3) the residual information, and (4) the vector difference, and that is included in the additional information, the interpolation frame creation unit specifies the information included in the additional information

using the profile information and creates the interpolation frame based on the specified information included in the additional information, as recited in claim 1.

Therefore, because of the above-mentioned distinctions it is believed clear that claim 1 and claims 4-8 that depend therefrom would not have been obvious or result from any combination of Puri and Hosono.

Therefore, there is no disclosure or suggestion in Puri and/or Hosono or elsewhere in the prior art of record which would have caused a person of ordinary skill in the art to modify Puri and/or Hosono to obtain the invention of independent claim 1. Accordingly, it is respectfully submitted that independent claim 1 and claims 4-8 that depend therefrom are clearly allowable over the prior art of record.

Amended independent claims 9, 17, 18, 19, 20 and 21 are directed to a device, a system, a circuit, a circuit, a program and a program, respectively and each recites features that correspond to the above-mentioned distinguishing features of independent claim 1. Thus, for the same reasons discussed above, it is respectfully submitted that independent claims 9 and 17-21 and claims 12-16 that dependent therefrom are allowable over the prior art of record.

Additionally, the Applicants note that amended independent claims 9, 19 and 21 recite that the profile information specifies a combination of information that is related to the interpolation method and the motion detection method and that is included in the additional information, and specifies a combination of information that is related to (1) the interpolation method, (2) the motion detection method, (3) the residual information, and (4) the vector difference, and that is included in the additional information. The Applicants note that for reasons similar those discussed above regarding independent claim 1, it is clear that no portion of

Puri teaches that the profile information specifies the combination of information, as required by claims 9, 19 and 21.

Therefore, for these additional reasons it is also clear that that independent claims 9, 19 and 21 and claims 12-16 that depend therefrom would not have been obvious or result from any combination of Puri and Hosono.

### **III. Conclusion**

In view of the above amendments and remarks, it is submitted that the present application is now in condition for allowance and an early notification thereof is earnestly requested. The Examiner is invited to contact the undersigned by telephone to resolve any remaining issues.

Respectfully submitted,

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